



BrightonSM

COLORADO

2017 Drinking Water Quality Report For Calendar Year 2016



Public Water System ID: C00101025

Esta es información importante. Si no la pueden leer, necesitan que alguien se la traduzca.

We are pleased to present this year's water quality report. Our constant goal is to provide you with a safe and dependable supply of drinking water. Please contact Curtis Bauers, Utilities Director, at 303-655-2033 with any questions about the Drinking Water Consumer Confidence Rule (CCR) or for public participation opportunities that may affect the water quality.

Lead in Drinking Water

If present, elevated levels of lead can cause serious health problems (especially for pregnant women and young children). It is possible that lead levels at your home may be higher than other homes in the community as a result of materials used in your home's plumbing. If you are concerned about lead in your water, you can have your water tested. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. Additional information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at www.epa.gov/safewater/lead.

Detected Contaminants

City of Brighton routinely monitors for contaminants in your drinking water in accordance with federal and state laws. The tables on the following pages show all detections found in the period of January 1 to December 31, 2016 unless otherwise noted. The State of Colorado requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. Therefore, some of our data, though representative, may be more than one year old. Violations and Formal Enforcement Actions, if any, are reported in the next section of this report.

Note: Only detected contaminants sampled within the last five years appear in this report. If no tables or data appear in this, or any portions of this section, then no contaminants were detected in the last round of monitoring.

Source Water Assessment and Protection (SWAP)

The Colorado Department of Public Health and Environment has provided us with a Source Water Assessment Report for our water supply. For general information or to obtain a copy of the report please visit www.wqcdcompliance.com/ccr. The report is located under "Source Water Assessment Reports," and then "Assessment Report by County." Select ADAMS County and find 101025; BRIGHTON CITY OF or by contacting CURTIS BAUERS at 303-655-2033. The Source Water Assessment Report provides a screening-level evaluation of potential contamination that could occur. It does not mean that the contamination has or will occur. We can use this information to evaluate the need to improve our current water treatment capabilities and prepare for future contamination threats. This can help us ensure that quality finished water is delivered to your homes. In addition, the source water assessment results provide a starting point for developing a source water protection plan. Potential sources of contamination in our source water area are listed on the next page.

Please contact us to learn more about what you can do to help protect your drinking water sources, any questions about the Drinking Water Consumer Confidence Report, to learn more about our system, or to attend scheduled public meetings. We want you, our valued customers, to be informed about the services we provide and the quality water we deliver to you every day.



General Information About Drinking Water

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791) or by visiting <http://water.epa.gov/drink/contaminants>.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV-AIDS or other immune system disorders, some elderly, and infants can be particularly at risk of infections. These people should seek advice about drinking water from their health care providers. For more information about contaminants and potential health effects, or to receive a copy of the U.S. Environmental Protection Agency (EPA) and the U.S. Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and microbiological contaminants call the EPA Safe Drinking Water Hotline at (1-800-426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- **Microbial contaminants:** viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants:** salts and metals, which can be naturally-occurring or can result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- **Pesticides and herbicides:** may come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses.
- **Radioactive contaminants:** can be naturally occurring or can be the result of oil and gas production and mining activities.
- **Organic chemical contaminants:** including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and also may come from gas stations, urban storm water runoff, and septic systems.

In order to ensure that tap water is safe to drink, the Colorado Department of Public Health and Environment prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Our Water Sources

Brighton's drinking water comes from alluvial wells in the South Platte River Basin and the Beebe Draw Alluvium just below Barr Lake with a mix of up to 2.2 million gallons per day delivered through the city of Thornton. Groundwater is generally, very clean and pure, and lacks many of the contaminants that can be found in surface water, as soils can act as a natural filter. You can help protect our water supplies by limiting the use of pesticides, fertilizers and outdoor chemicals. Remember, anything that is poured onto the ground or in the streets has the potential for reaching the alluvium.

<u>Source</u>	<u>Source Type</u>	<u>Water Type</u>	<u>Potential Source(s) of Contamination</u>
PURCHASED WATER FROM THORNTON	Consecutive Connection	Surface Water	
WELL 7R	Well	Groundwater	
NO 8 WELL	Well	Groundwater	
BEEBE WELL A	Well	Groundwater UDI Surface Water	
BEEBE WELL B	Well	Groundwater UDI Surface Water	
BEEBE WELL C	Well	Groundwater UDI Surface Water	
WELL 11	Well	Groundwater	
WELL 12	Well	Groundwater	
WELL 13	Well	Groundwater	
WELL 17	Well	Groundwater	
WELL 18	Well	Groundwater	

As a consecutive system to Thornton, the sampling results included in this CCR inherently include data from the water purchased from Thornton. To view a copy of the CCR specifically for the City of Thornton, visit: www.cityofthornton.net/government/infrastructure/water/

Microorganism Contaminants Sampled in the Distribution System

Contaminant Name	Time Period	Results	Sample Size	MCL	MCLG	MCL Violation	Typical Sources
Coliform (TCR)	Aug	4.35	46	More than 5.0% positive samples per period (If sample size is greater than or equal to 40) OR More than 1 positive sample per period (If sample size is less than 40)	0	No	Naturally present in the environment

Lead and Copper Sampled in the Distribution System

Contaminant Name	Time Period	90 th Percentile	Sample Size	Unit of Measure	90 th Percentile AL	Sample Sites Above AL	90 th Percentile AL Exceedance	Typical Sources
Copper	07/21/2014 to 08/01/2014	0.4	30	ppm	1.3		No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead	07/21/2014 to 08/01/2014	2	30	ppb	15		No	Corrosion of household plumbing systems; Erosion of natural deposits

Disinfection Byproducts Sampled in the Distribution System

Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	Highest Compliance Value	MCL Violation	Typical Sources
Total Haloacetic Acids (HAA5)	2016	21.95	8.67 to 36.99	16	ppb	60	N/A		No	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM)	2016	57.09	25.2 to 106.2	16	ppb	80	N/A		No	Byproduct of drinking water disinfection

Disinfectants Sampled at the Entry Point to the Distribution System

Contaminant Name	Year	Number of Samples Above or Below Level	Sample Size	TT/MRDL Requirement	TT/MRDL Violation	Typical Sources
Chlorine/Chloramine	2016	1	4392	TT = No more than 4 hours with a sample below 0.8 MG/L	No	Water additive used to control microbes

Summary of Turbidity Sampled at the Entry Point to the Distribution System

Contaminant Name	Sample Date	Level Found	TT Requirement	TT Violation	Typical Sources
Turbidity	Date/Month: Aug.	Highest single measurement: 0.304 NTU	Maximum 1 NTU for any single measurement	No	Soil Runoff
Turbidity	Month: Dec.	Lowest monthly percentage of samples meeting TT requirement for our technology: 100%	In any month, at least 95% of samples must be less than 0.3 NTU	No	Soil Runoff

Radionuclides Sampled at the Entry Point to the Distribution System

Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
Combined Radium	2013	0.15	0.1 to 0.2	2	pCi/L	5	0	No	Erosion of natural deposits
Combined Uranium	2016	2.75	2.6 to 2.9	2	ppb	30	0	No	Erosion of natural deposits

Inorganic Contaminants Sampled at the Entry Point to the Distribution System

Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
Barium	2016	0.03	0.03 to 0.03	2	ppm	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride	2016	0.59	0.49 to 0.78	11	ppm	4	4	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate	2016	3.9	3.9 to 3.9	2	ppm	10	10	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	2016	1.5	1.5	2	ppb	50	50	No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines

Nitrate: *Nitrate in drinking water at levels above 10 ppm* is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

Disinfectants Sampled in the Distribution System TT Requirement: At least 95% of samples per period (month or quarter) must be at least 0.2 ppm OR if sample size is less than 40 no more than 1 sample is below 0.2 ppm Typical Sources: Water additive used to control microbes							
Contaminant Name	Time Period	Results	Number of Samples Below Level	Sample Size	TT Violation	MRDL	MCLG
Chlorine	December, 2016	Lowest period percent-age of samples meeting TT requirement: 100%	0	40	No	4.0 ppm	10,000

Volatile Organic Contaminants Sampled at the Entry Point to the Distribution System									
Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
Xylenes	2016	0.25	0 to 0.5	2	ppb	10,000	10,000	No	Discharge from petroleum factories; discharge from chemical factories

Secondary Contaminants** **Secondary standards are non-enforceable guidelines for contaminants that may cause cosmetic effects (such as skin, or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water.						
Contaminant Name	Year	Average	Range Low-High	Sample Size	Unit of Measure	Secondary Standard
Sodium	2016	41.65	40.2 to 43.1	2	ppm	N/A

Unregulated Contaminants*** EPA has implemented the Unregulated Contaminant Monitoring Rule (UCMR) to collect data for contaminants that are suspected to be present in drinking water and do not have health-based standards set under the Safe Drinking Water Act. EPA uses the results of UCMR monitoring to learn about the occurrence of unregulated contaminants in drinking water and to decide whether or not these contaminants will be regulated in the future. We performed monitoring and reported the analytical results of the monitoring to EPA in accordance with its Third Unregulated Contaminant Monitoring Rule (UCMR3). Once EPA reviews the submitted results, the results are made available in the EPA's National Contaminant Occurrence Database (NCOD) (http://www.epa.gov/dwucmr/national-contaminant-occurrence-database-ncod) Consumers can review UCMR results by accessing the NCOD. Contaminants that were detected during our UCMR3 sampling and the corresponding analytical results are provided below.					
Contaminant Name	Year	Average	Range: Low – High	Sample Size	Unit of Measure
***More information about the contaminants that were included in UCMR3 monitoring can be found at: http://www.drinktap.org/water-info/whats-in-my-water/unregulated-contaminant-monitoring-rule.aspx . Learn more about the EPA UCMR at: http://www.epa.gov/dwucmr/learn-about-unregulated-contaminant-monitoring-rule or contact the Safe Drinking Water Hotline at (800) 426-4791 or http://water.epa.gov/drink/contact.cfm .					

Unregulated contaminants have not been found to be present in City of Brighton drinking water.

Terms and Abbreviations Used in the Preceding Tables

Maximum Contaminant Level (MCL) – The highest level of a contaminant allowed in drinking water.

Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in drinking water.

Health-Based – A violation of either a MCL or TT.

Non-Health-Based – A violation that is not a MCL or TT.

Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment and other regulatory requirements.

Maximum Residual Disinfectant Level (MRDL) – The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Contaminant Level Goal (MCLG) – The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level Goal (MRDLG) – The level of a drinking water disinfectant, below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Violation (No Abbreviation) – Failure to meet a Colorado Primary Drinking Water Regulation.

Formal Enforcement Action (No Abbreviation) – Escalated action taken by the State (due to the risk to public health, or number or severity of violations) to bring a non-compliant water system back into compliance.

Variance and Exemptions (V/E) – Department permission not to meet a MCL or treatment technique under certain conditions.

Gross Alpha (No Abbreviation) – Gross alpha particle activity compliance value. It includes radium-226, but excludes radon 222, and uranium.

Picocuries per liter (pCi/L) – Measure of the radioactivity in water.

Nephelometric Turbidity Unit (NTU) – Measure of the clarity or cloudiness of water. Turbidity in excess of 5 NTU is just noticeable to the typical person.

Compliance Value (No Abbreviation) – Single or calculated value used to determine if regulatory contaminant level (e.g. MCL) is met. Examples of calculated values are the 90th Percentile, Running Annual Average (RAA) and Locational Running Annual Average (LRAA).

Average (x-bar) – Typical value.

Range (R) – Lowest value to the highest value.

Sample Size (n) – Number or count of values (i.e. number of water samples collected).

Parts per million = Milligrams per liter (ppm = mg/L) – One part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion = Micrograms per liter (ppb = ug/L) – One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Not Applicable (N/A) – Does not apply or not available.

Level 1 Assessment – A study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Level 2 Assessment – A very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

Seven Principles of Xeriscape

It's not a specific look or specific group of plants. Rather, xeriscape is a combination of seven common-sense gardening principles that save water, time and resources while creating a gorgeous landscape.

Expanded information about each of the Xeriscape fundamentals may be obtained by contacting the local Xeriscape program in your area, reading one or more of the many books published about Xeriscape, or by researching the internet.



The Seven Principles of Xeriscape are:

- 1. Plan and Design...**
for water conservation and beauty from the start. A design makes it easy to complete your project in phases.
- 2. Create Practical Turf Areas...**
of manageable size, shape and grade.
- 3. Select Low-Water Plants...**
and group them according to their water needs. This is also known as hydrozoning. Then experiment to determine how much and how often to water.
- 4. Use Soil Amendments...**
as you plant. Compost is the best choice.
- 5. Use Mulches...**
like wood chips or cobble rock to reduce evaporation and to keep the soil cool.
- 6. Irrigate Efficiently...**
with properly designed systems (including hose-end equipment) and by applying the right amount of water at the right time.
- 7. Maintain the Landscape Properly...**
by mowing, weeding, pruning and fertilizing properly.



Xeriscape is NOT dry only.

Even though dry-only landscaping can be quite spectacularly colorful, and even lush, limited areas of more highly-watered landscape are completely consistent with wise water use. For example, heavily-irrigated athletic field turf makes sense, since it recovers quickly from heavy use.

Xeriscape is NOT just rocks and gravel.

And it's not a Zeroscape. Although dry (xeric) rock gardens can be truly marvelous, there are many wonderful choices other than rock for the xeric portions of Xeriscape designs. Xeric implies no added water. By definition, Xeriscape means some water applied in well-controlled amounts and locations in the landscape.

Xeriscape is NOT necessarily lawn-less landscaping.

Some lawn, even of species that are more highly watered, can be consistent with wise water use. "Less-lawn landscaping", rather than "Lawn-less landscaping" is an appropriate statement.

Xeriscape is NOT native plants only.

Although there are vast arrays of wonderful plants indigenous to all regions, non-invasive introduced plants, that are well-adapted to the local regional climate, are wonderful additions to landscaping that uses water frugally. For example, many iris, tulips, and even roses are examples of introduced plants that are well adapted to nonirrigated landscaping in the Rocky Mountain region.

Xeriscape is NOT a boring monoculture of spiny plants.

On the contrary, well planned Xeriscapes are splendid examples of the beauty and diversity that make neighbors envious. For more information on Xeriscape and other horticultural topics, please visit www.planttalk.org.



WaterSmart transforms utility consumption data into an effective water-use efficiency and customer engagement program.

The WaterSmart program provides services in support of an outreach program for the City of Brighton intended to facilitate communication with customers regarding their water use, improve the City's understanding of water use by their customers, and reduce overall annual water demand, resulting in lower customer bills.

How it works: customers receive bi-monthly *Home Water Reports* that present customer-specific water use data and comparisons, customized water saving recommendations, and possible opportunities for water savings. Although the program is for information only, we hope that some of the savings suggestions can be easily implemented. A Utility Dashboard is also provided that allows Brighton personnel to track program performance and access additional analytics to further target customers for conservation assistance.

Log on to:

www.brightonco.gov/watersmart

Enter your account number and zip code to get your full list of recommended actions, and see:

- Where you're using the most
- Your progress over time
- Efficient products for purchase

Good Neighbor PROGRAM

The City of Brighton's Good Neighbor Fund Program provides emergency utility bill payment assistance to individuals and families in Brighton facing a temporary financial crisis. The Good Neighbor activities are funded through voluntary contributions from participating City of Brighton utility customers who choose to be a good neighbor and round-up their bill to the next dollar in order to donate funds to the program.

Every month, being a good neighbor may only cost a few pennies and will never be more than 99 cents. Give a little, help a lot!

Being a good neighbor is easy!

To sign up to round-up your bill and be a good neighbor, mark the appropriate box on your utility bill invoice and return it in the mail with your payment, or turn it in to the City of Brighton Utility Billing Customer Service Counter. Sign up online at

www.brightonco.gov/goodneighborprogram.



How can I get help?

If you or someone you know is facing a temporary financial crisis and would like to receive assistance from the Good Neighbor Fund program, please pick up an application at the Utility Billing Customer Service Counter located on the first floor of Brighton City Hall or fill out the application online at www.brightonco.gov/goodneighborprogram.

For questions about the program, contact 303-655-2009.

Tired of paying a different amount every month for water? Sign up for budget billing!

Budget billing is offered to homeowners that have been current with payments on their monthly water bills for a period of 12 months. New homeowners may apply based upon previous annual average consumption at their current address. Budget billing is re-adjusted every March and is calculated by using the previous 12-month average bill with a 10 percent increase added into the monthly totals and then reconciled with the 12th bill.

Go green with Direct Pay

Direct Pay is the City of Brighton's program for the citizens who prefer to have their water bills automatically deducted from their checking account.

To sign up, simply call the Utility Billing Division at 303-655-2009 and request a Direct Pay form be sent to you. Once the form is returned with a voided check, the process begins. The first billing cycle your routing and account numbers are verified. The second billing cycle the automatic deduction begins. The deduction is taken out of your checking or savings account on the due date shown on your monthly statement.



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